

**Notice of Allowability**

Application No.

10/689,261

Examiner

Dwayne K. Handy

Applicant(s)

HILL ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an interview on June 15, 2007.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Joseph Marasco on 6/15/07.

2. The application has been amended as follows:

**Claim 1** has been amended to read as follows:

-- A freeze resistant buoy system comprising a tail-tube buoy having:  
an upper thermally insulated section disposed predominantly above a waterline region, said buoy further comprising;  
a lower thermosiphon section disposed predominantly below said waterline region and having a bottom, wherein said lower thermosiphon section is further comprised of an outer shell and inner shell having a hollow space with heat transfer fluid therebetween; and  
wherein said lower thermosiphon section is configured to transfer heat from the bottom to the waterline region. --

In **claim 2**, line 2, the phrase "and a heat transfer fluid" has been deleted.

**Claim 6** has been amended to read as follows:

-- A freeze resistant buoy system comprising a tail-tube buoy having:  
an upper thermally insulated section disposed predominantly above a waterline region, said buoy further comprising;  
a lower thermosiphon section disposed predominantly below said waterline region and having a bottom, wherein said lower thermosiphon section is further comprised of an outer shell and inner shell having a hollow space with heat transfer fluid therebetween;  
wherein said lower thermosiphon section is configured to transfer heat from the bottom to the waterline region; and  
a system housed within the buoy system for collecting and analyzing samples. --

***Allowable Subject Matter***

3. The following is an examiner's statement of reasons for allowance:

Claims 1 and 6 recite a buoy system having an upper thermally insulated section disposed predominantly above a waterline region and a lower thermo-siphon section disposed predominantly below said waterline region. The thermosiphon is comprised of an outer shell and inner shell having a hollow space with heat transfer fluid and configured to transfer heat from the bottom to the waterline region. The Examiner considers the Majkrzak and Berteaux references to be the closest prior art. Majkrzak teaches a buoy having a heat condensing wall but does not teach the thermosiphon

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structure recited in the claims. Berteaux teaches vaporizing gas to provide buoyancy but does not teach a thermosiphon structure as recited in the claims.

### ***Conclusion***

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne K. Handy whose telephone number is (571)-272-1259. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DKH  
June 20, 2007



**LYLE A. ALEXANDER**  
**PRIMARY EXAMINER**